

C. Remarks

The claims are 1-6 and 11, with claims 1 and 11 being independent. Claims 7, 9 and 10 have been cancelled. Claim 11 has been amended to explicitly recite the features of claim 1 from which it originally depended. No new matter has been added. Reconsideration of the present claims is expressly requested.

Claim 11 is objected to because of an alleged informality. Specifically, the Examiner has alleged that this claim contains an incomplete recitation of the method because of the reference to claim 1.

Applicants submit that a reference to claim 1 in connection with the method for forming an electrode and a wiring is proper and does not make claim 11 incomplete. However, solely to expedite prosecution, the method steps listed in claim 1 are now explicitly recited in claim 11. Accordingly, withdrawal of the objection is respectfully requested.

Claims 7, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,586,155 B2 (Furuse).

Without acquiescence, and solely to expedite prosecution, claims 7, 9 and 10 have been cancelled. Accordingly, this rejection is moot and should be withdrawn.

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 5,631,753 (Hamaguchi). Claims 2-6 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Furuse. Claim 11 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,011,567 (Nakamura) in view of Hamaguchi. The grounds of rejection are respectfully traversed.

Prior to addressing the merits of rejection, Applicants would like to briefly review some of the key features and advantages of the presently claimed invention. The presently claimed invention is directed, in part, to a method for forming an electrode and wiring. In this method, a base pattern is formed by applying a photosensitive resin containing a water-soluble photosensitive resin component and a water-soluble metallic compound onto the substrate and exposing the photosensitive resin. Subsequently, an organic metallic compound is absorbed into the base pattern. Then, the base pattern, in which the organic metallic compound is absorbed, is baked. Absorbing an organic metallic compound into the exposed base layer reduces the resistance of the base pattern upon baking in order to improve the conductivity of the electrode and the wiring. As recited in claim 11, this method may be used to form an electrode and a wire for an image-forming apparatus, which includes a plurality of electron-emitting devices and an image-forming member.

Hamaguchi is directed to black matrix substrates and processes for their preparation. The Examiner has alleged on page 3 of the Office Action that Hamaguchi teaches absorbing an organic metallic compound into the base pattern by disclosing that the base pattern of photosensitive resin layer 7 is immersed in an electroless plating solution containing a water-soluble heavy metal salt, such as a nickel plating solution containing a boron type reductant or a hypophosphorous acid type reductant. Applicants respectfully submit that even if assumed, arguendo, that Hamaguchi discloses such an immersion, it will not lead to the absorption of an organic metallic compound, because the solution does not contain an organic metallic compound.

Specifically, according to Hamaguchi, the plating solution is, for example, nickel sulfate: $\text{NiSO}_4 = \text{Ni}^{2+} + (\text{SO}_4)^{2-}$. This solution, however, does not contain carbon, which is required in an organic compound. Organic metallic compounds, in general, are compounds that contain CO or CH groups. For example, one such compound is $[\text{Pt}(\text{NH}_2\text{CH}_2\text{CH}_2\text{OH})_4](\text{OCCH}_3)_2 = [\text{Pt}(\text{NH}_2\text{CH}_2\text{CH}_2\text{OH})_4]^{2+} + 2(\text{OCCH}_3)^-$. Therefore, clearly, if a base pattern is immersed in the plating solution as taught by Hamaguchi, there is no absorption of an organic metallic compound.

Furthermore, in the present invention, in the baking step, the organic component and the polymer contained in the organic compound are burned and removed in order to form the electrode and the wiring. Thus, the burning is conducted at a high temperature, for example 400-600°C. As a result of the burning, the metal component contained in the organic compound remains, increasing the electrical conductivity of the resulting wiring.

In Hamaguchi, the heat processing step identified by the Examiner is conducted at a temperature, which is lower than the temperature required to decompose an organic compound and a polymer (e.g., 200°C). Applicants submit that the thermal processing step in Hamaguchi is conducted merely to harden the photosensitive resist, which is clearly different from the baking step as presently claimed. In fact, this further shows that Hamaguchi does not disclose or suggest absorption of an organic metallic compound.

Furuse relates to a composition for forming an electro-conductive film.

Furuse teaches, for example, dissolving a photosensitive resinous component, coating the solution on the substrate, drying to evaporate the solvent, exposing the coated film, developing the exposed film and baking the remaining coated film. However, Furuse does not disclose or suggest a step of absorbing an organic metallic compound into the exposed base pattern. Also, Applicants submit that Furuse fails to disclose or suggest the baking step as presently claimed.

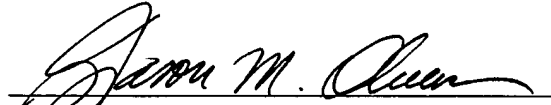
Nakamura cannot cure the deficiencies of Hamaguchi and Furuse. The Examiner has acknowledged that Nakamura fails to disclose or suggest the method steps recited in claim 1. Therefore, since Hamaguchi and Furuse do not disclose or suggest at least the absorbing and baking steps, it is clear that Nakamura cannot be combined with Hamaguchi and Furuse to render the presently claimed invention unpatentable.

In conclusion, Applicants respectfully submit that the cited references, whether considered separately or in any proper combination, do not disclose or suggest the elements presently claimed. Wherefore, Applicants respectfully request that the outstanding objection and rejections be withdrawn and that the present case be passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our

address given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jason M. Okun", is written over a horizontal line.

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